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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/519,364

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Ingela Petersson

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EXAMINER

LEWIS, RALPH A

ART UNIT

PAPER NUMBER

3732

NOTIFICATION DATE

DELIVERY MODE

04/15/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,364	<b>Applicant(s)</b> PETERSSON ET AL.	
	<b>Examiner</b> Ralph A. Lewis	<b>Art Unit</b> 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 1/29/2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 28-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 28-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **Restriction Requirement Withdrawn**

Applicant's election with traverse of Group II claims 38-47 in response to the restriction requirement of December 29, 2008 is acknowledged. In view of applicant's remarks and a further review of the prior art, the restriction is withdrawn.

### **Obvious-type Double Patenting Rejections**

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 28-47 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 7-11, 13, 14, and 16-24 of copending Application No. 10/519,495. Although the conflicting claims are not identical, they are not patentably distinct from each other because the presently pending claims include all the limitations of the pending claims in '495 plus the requirement of fluorine and/ fluoride on at least part of the implant. However, it is noted that according to applicant's specification, treating the titanium implant with hydrofluoric

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acid as claimed in '495 inherently provides for such fluorine/fluoride (see e.g. page 15, lines 8-28).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### **Rejections based on Prior Art**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 28-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellingsen et al (WO 95/17217) optionally in view of Steinemann et al (US 5,456,723) and Haruyuki et al (JP-3146679).

Ellingsen et al disclose a method of treating titanium dental implants wherein the titanium implants are exposed to hydrofluoric acid in a concentration from .01% to 3%, preferably in a range of 0.2%- to 0.5%, (note page 5, lines 27-31) for "any suitable length of time . . . such as 10 seconds to 6 hours" (page 6, lines 1-5). Ellingsten et al disclose that their method improves the rate of bone tissue attachment and strength or bonding (page 7, lines 12-15). Ellingsten et al, desiring not to be bound by theory attribute the improved osteointegration "at least in part, to fluoride being retained on the surface of the implant" (page 7, lines 17-19). Ellingsten et al do not disclose whether

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their process produces micropores, but do indicate that “preferably” there is “no significant etching” or “substantially no etching” (column 8, lines 1-3). Applicant at page 17, lines 31-36 of their specification, characterizes the Ellingsen et al process as lasting 90 seconds “thus no etching occurred” whereas, applicant’s implants when subject to the same concentration of hydrofluoric acid for an “etching period” of 40 +/- 5 seconds are etched to a degree meeting the pore size requirements of the present claims. Applicant indicates that the “etching period” begins when bubbles first appear on the implant (note page 18, lines 3-21). Applicant does not disclose how long the implants are exposed to the HF acid solution before the “etching period” begins.

One of ordinary skill in the art desiring to practice the Ellingsen et al invention would have found it obvious as a matter of routine practice to have optimized the exposure time of the implants to the hydrofluoric acid to the time which gives the implants the best osteointegration results. The best osteointegration results inherently occur wherein the HF causes a minor amount of micro etching with pores having diameter of less than 1 micron and depth of less than half a micron. Such routine obvious optimization would have been particularly obvious in view of the prior art that teaches such small amounts of acid etching improve osteointegration of the implant. More particularly, Steinemann et al teach that micro roughness of 2 microns or less is preferred for titanium implants to improve osteointegration (note abstract) and that such roughness may be obtained with hydrofluoric acid (column 3, line 13) and Haruyuki et al teach titanium implants be etched such that they have pores with an average diameter of 1-10 microns and a depth of .5-5 microns (translation, page 4, column 1, lines 1-9)

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with an acid solution that contains hydrofluoric acid (translation, page 3, column 2, lines 22-24) in order to improve osteointegration. Accordingly, to have continued the Ellingsen HF acid treatment process until micropores of 1 micron were formed in order to further improve the osteointegration of the Ellingsen implant in view of the teachings by Steinemann et al and Haruyuki et al that such micro sized pores improve osteointegration and are readily formed by exposure to hydrofluoric acid would have been obvious to one of ordinary skill in the art.

In regard to the rms value of claim 29, such a value is inherent in such sized pores (note applicant's specification page 12, lines 1-50. In regard to the macroroughness of claims 34 and 35, Steinemann et al teach that is desirable to sandblast the implant before prior to the acid etching which forms micropores (note column 3, lines 46-47). In regard to the "peaks having a peak width, at half the pore depth, of 15 to 150% of the pore diameter" limitation of claim 38, the measured characteristic appears to be an inherent result of the acid etching process. Applicant discloses no steps other than the acid etching to achieve such a physical characteristic.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

This application has been transferred since Examiner Bumgarner has accepted another position at the Office. Any inquiry concerning this communication should be directed to **Ralph Lewis** at telephone number **(571) 272-4712**. Fax (571) 273-8300. The examiner works a compressed work schedule and is unavailable every other Friday. The examiner's supervisor, Cris Rodriguez, can be reached at (571) 272-4964.

R.Lewis  
April 11, 2009

/Ralph A. Lewis/

Primary Examiner, Art Unit 3732